Review of the Draft Radiological Characterization Surveys Work Plan, Parcel F Structures, Hunters Point Naval Shipyard, San Francisco, California Hunters Point Naval Shipyard, San Francisco, California, February 2018
EPA comments dated 5-22-2018

GENERAL COMMENTS

1. Section 2.3 (Nature and Extent) of the Draft Radiological Characterization Surveys Work Plan, Parcel F Structures, Hunters Point Naval Shipyard, San Francisco, California (Work Plan) states that surveys of the drydocks following decontamination operations did not identify areas of elevated radioactivity, indicating a low probability of finding residual radioactivity from contaminated ships. The text does not explain, however, what types of surveys were performed (gamma and/or alpha/beta) or what percentage of the drydocks were actually scanned. In order to demonstrate that the *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)* classification of these Ship Berth areas is appropriate and to support the sufficiency of the proposed characterization plan, the Work Plan should include this information. For example, Section 5.1 (Classification and Survey Units) states that the Parcel F structures were classified as Class 3 areas. MARSSIM guidance states that Class 3 areas are impacted areas that are not expected to contain any residual radioactivity, or are expected to contain levels of residual radioactivity at a small fraction of the Derived Concentration Guideline Level for the wide area ($DCGL_W$), based on site operating history and previous radiation surveys. Historical information is especially important for the alpha/beta emitting radionuclides of concern (ROCs), Plutonium-239 (Pu-239), which is an alpha emitter, and Strontium-90 (Sr-90), which is a beta emitter, because the current Work Plan proposes to only survey 25% of the Parcel F structures for gross alpha/beta and includes survey units for the finger piers that are very large, around 7,000 – 8,000 square meters (m^2). Please revise the Work Plan to include information about the types and locations of previous radiological surveys of the Parcel F structures.

1. Section 1.0 (Introduction) states that the Table 1 release limits/cleanup goals for localized radioactive contamination are based on the U.S. Nuclear Regulatory Commission (NRC) dose limit of 25 millirems per year. However, in order to demonstrate compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Contingency Plan (NCP), a risk assessment will need to be completed to demonstrate that future potential receptors will not be exposed to residual contamination that results in an Excess Lifetime Cancer Risk of greater than 10E-04 to 10E-06. U.S. EPA's "Radiation Risk Assessment at CERCLA Sites: Q & A" states "The PRG calculators (U.S. EPA 2002a, 2007, 2009a), which are used to develop risk-based PRGs for radionuclides, are recommended by EPA for Superfund remedial radiation risk assessments." (Source: https://epa-prgs.ornl.gov/radionuclides/RadRiskQAwithtransmitmemo_June_13_2014.pdf) As one of multiple lines of evidence, please revise the Work Plan include showing results from the EPA PRG Calculators for Parcel F. This addition would help demonstrate consistency with U.S. EPA's CERCLA approaches. The software is public and free. The human health PRG calculator is at https://epa-prgs.ornl.gov/radionuclides/ and the ecological risk version is at https://epa-eco.ornl.gov/radionuclides/. Please revise the Work

Plan to discuss how it will be ensured that the final actions/end state of Parcel F structures will be evaluated to ensure risk to any potential receptor falls within the CERCLA acceptable risk range of 10E-06 to 10E-04.

2. It is unclear if the instrument efficiencies used to calculate the gamma spectrometry and alpha/beta survey surveys and static measurements Minimum Detectable Concentrations (MDCs) referenced in Section 5.5 (Survey Instrumentation), Table 5 of the Work Plan, and Worksheet #15 of the Appendix B Sampling and Analysis Plan, were adjusted to account for the various materials that will be surveyed, such as metal, wood, concrete, or others. The instrument and matrix efficiencies have a significant impact on the achievable MDCs, therefore this information is critical for determining if the calculated MDCs can be met during the actual surveys. Please revise the Work Plan to discuss whether instrument efficiencies were adjusted for different materials (e.g., wood, metal, concrete, etc.) that will be surveyed at the ship berths areas.

3. Table 3 lists the environmental background measurements collected from soil samples at the Hunter's Point Naval Shipyard; however, background measurements for other materials that will be surveyed for Parcel F structures are not included. Please ensure background measurements are collected from representative materials in order to support the MDCs, scan speeds, and static measurement times listed in the Work Plan.

SPECIFIC COMMENTS

1. **Section 5.4.4, Step Four – Define the Study Boundaries, Page 5-3 and Appendix A, Sampling and Analysis Plan (SAP) Worksheet #11, Project Quality Objectives/Systematic Planning Process Statements, Page 30:** The spatial boundaries are provided in the Step 4 discussion. Please also provide the temporal boundaries for this study.

2. **Section 7.1.2, Alpha and Beta Surveys, Page 7-4 and Section 7.3, Site Restoration, Page 7-5:** The text in Section 7.1.2 states that cutting or sawing may be required to access manhole covers that are locked or welded in place or other plates or covers that limit access, but it is unclear how these areas will be secured to limit access after the surveys are completed. Section 7.3 states, Restoration of Parcel F structures is not expected or required," but subsurface structures should be left in an inaccessible condition. Please revise the Work Plan to discuss how areas where cutting or sawing is required to access manholes and other covered areas will be secured when the surveys are completed.

3. **Appendix A, SAP Worksheet #28.3, Laboratory Quality Control Samples -Alpha Spectroscopy, Pages 67 and 68:** This worksheet does not include sample tracers as one of the quality control checks. Please revise the SAP to include the recovery of tracers to be included in this worksheet.

4. **Appendix A, SAP Worksheets #34-36, Data Verification and Validation (Steps I and IIa/IIb) Process Table, Page 76:** The text states that validation (i.e., Stage 3) will be performed on 10 percent (%) of the samples, and 90 % will receive Stage 2 verification.

It is requested that in addition to these requirements, data validation be performed on one or more of the initial data packages from the laboratory at the beginning of the project to ensure the quality of the data is sufficient and is meeting the data quality objectives (DQOs) for the project. Please revise Worksheets #34-36 to require data validation of at least one of the initial data packages from the laboratory to ensure the DQOs are being met.

4. **Appendix A, SAP Worksheet #37, Usability Assessment, Pages 78-81:** This worksheet describes the process that will be followed to perform a data usability assessment but does not specify the frequency of such reviews. Additionally, neither SAP Worksheets #34-36: Data Verification and Validation (Steps I and IIa/IIb) Process, nor Worksheet #37 states how the results of such an assessment will be documented and reviewed or what process will be followed if the data usability assessment (DQA) indicates the data are not usable. Please revise Worksheet #37 to include the percentage/frequency of data packages that will be subject to a data usability assessment, how these reviews will be documented and reviewed, and what process will be followed if anomalies are noted in the DQA and/or data are deemed not usable for decision making.